



Mississippi

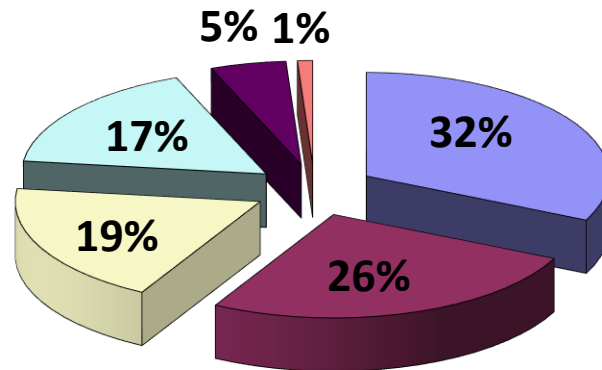
2016 Forest Health Highlights

The Resource

Mississippi's forests cover 19.9 million acres, more than 65% of the state's land area. Some 13.1 million acres of the states forested land is in non-industrial private ownership, while approximately 1.1 million acres are in national forests. Mississippi's forests are prized for their scenic beauty, supporting tourism and outdoor recreation and providing wildlife habitat throughout the state. Major forest types in the state include oak-hickory, loblolly and shortleaf pine, longleaf and slash pine, mixed oak-pine, and oak-gum-cypress.



Mississippi Forest Type Distribution



■ Oak-hickory

■ Loblolly-shortleaf

■ Oak-gum-cypress

■ Oak-pine

■ Longleaf-slash pine

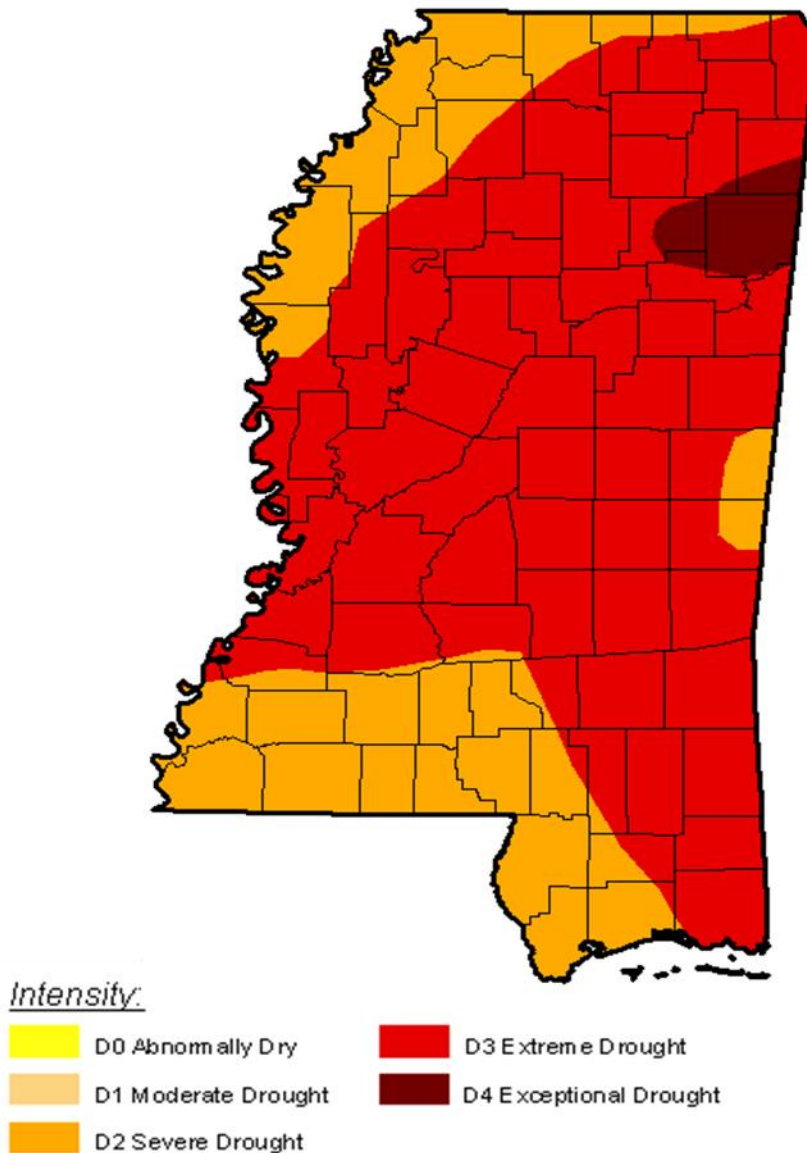
■ Other

Drought

100% of the land area in Mississippi as of 11/29/2016 was classified as “Severe” drought conditions, and ~71% was classified as “Extreme” drought conditions (droughtmonitor.unl.edu). This follows 2015, which was characterized as the worst drought in nearly 100 years. Lack of rainfall continues to impact forest health in Mississippi, with numerous drought-stressed pines succumbing to *Ips* beetles, deodar weevils, and native pine shoot beetles contributing to the situation. Additionally, there have been numerous reports of drought-weakened hardwood tree mortality (oaks, hickories, ash, etc.) with associated woodborers and bark beetles contributing to the situation.

U.S. Drought Monitor

Mississippi



Southern Pine Beetle

Southcentral and Southwestern Mississippi Forestry Commission Districts, especially those near Homochitto and Bienville National Forests, reported elevated SPB numbers during spring trapping surveys. Additionally, an increasing number of counties reported at least a few southern pine beetles in traps, indicating SPB populations may be slowly rising and becoming more evenly distributed statewide. This trend has been steadily increasing since 2011. SPB were intercepted in 15 of 19 counties sampled during 2016 and in 16 of 18 counties in 2015, vs. much less even distributions in previous years (14 in 2014, 10 in 2013, 7 in 2012, and 5 counties during 2011). Additionally, the statewide total number of SPB captured during 2016 (10,295) was on the rise again, compared to 463 in 2015, 578 in 2014, 6,113 in 2013, 149 in 2012, and 579 in 2011. Although somewhat sporadic, the total number of SPB captured over the last few years seems to be increasing.

Southern pine beetle infestations during 2016 have largely followed suit with spring trapping survey predictions. Fifteen SPB spots (11 private, 4 public, 53 acres total) were confirmed by Mississippi Forestry Commission on the ground. Most of these were around Bienville and Homochitto National Forests, which reported 238 and 91 spots, respectively. Drought conditions may continue to spur increase SPB activity in the coming year.



Loblolly Pine Sawfly

Northeast Mississippi and northwest Alabama forests experienced a large loblolly pine sawfly (*Neodiprion taedae linearis* Ross) outbreak during spring and early summer of 2014 and 2015. The majority of the infestations occurred in Itawamba County, MS and Marion County, Alabama. The affected areas were estimated to encompass 10-15,000 acres of pine plantations in Mississippi and Alabama. The loblolly pine sawfly is one of the most severe important defoliators of pine in the central southern states. The larvae are capable of causing 100% defoliation, resulting in significant growth and vigor reductions, but rarely mortality. Stands that were 100% defoliated during both 2014 and 2015 were reported by local MFC personnel to experience light mortality. Landowners/foresters were instructed to assess tree vigor and growth to help determine a harvest timeline, as well as to keep a close eye on potential secondary bark beetle attack on trees stressed by 2 years of defoliation. Thankfully, this outbreak appears to have subsided during 2016, and only two small infestations were reported in Itawamba County, MS.



Redbay Ambrosia Beetle

The redbay ambrosia beetle was detected for the first time in Jackson County, MS in July, 2009. This insect carries the fungus that causes Laurel Wilt Disease. Since its introduction to the Southeast, it has caused considerable mortality to redbay, swamp bay, sassafras, avocado, and other species of trees and shrubs in the Lauraceae. Current distribution records indicate the disease is present from North Carolina to Florida, westward to newer established populations in north-central Louisiana and eastern Texas. The infestation in Mississippi continues to expand, and is now present throughout the majority of Jackson Co., and portions of George and Harrison Counties in redbay, swamp bay, sassafras, as well as camphor tree. In 2015, laurel wilt was also confirmed in Stone and Perry Counties, and in 2016 was confirmed in Forrest County, MS. Collaborative research between MSSTATE, MFC, and the USDA Forest Service Region 8 FHP has led to the conclusion that the beetle was likely spread to Mississippi by human movement of infested materials from beetles along the Atlantic Coast of the U.S., rather than through a separate introduction through a local port. Cold tolerance of the vector suggests that nearly all sassafras trees in the U.S.A. are at risk from invasion and mortality due to redbay ambrosia beetle and its fungal symbiont. Additional research is investigating the impacts of LWD on Palamedes swallowtail butterflies, and other invertebrate herbivores of the Lauraceae in North America.



Don't Move Firewood Campaign

The MS Forestry Commission continued to spread the word about the “Don’t Move Firewood” campaign. MFC employees used promotional items at various venues across the state such as the MS Wildlife Extravaganza in Jackson, MS Garden and Patio show in Jackson, MS Forestry Association annual meeting along with various others. The Mississippi Forestry Commission also helped implement a new multi-agency project with MDWFP and Mississippi State University, surveying campground users to determine the efficacy of our Don’t Move Firewood campaign. Users were surveyed regarding their knowledge and attitudes about invasive forest pests, the dangers of moving firewood, and their firewood movement habits. Users were also asked to trade firewood they brought for kiln-dried firewood, and wood boring insects are being extracted from these samples and identified. Survey results, distance traveled, origin, camper responses, and wood characteristics will be analyzed to determine the most important factors influencing movement of woodborers into MS campgrounds via recreational firewood. Participants were also provided with thematic materials and educational pamphlets.



Southern pine beetle (SPB) Prevention Program

The MFC, in cooperation with Alan Van Valkenburg with Van's Forestry Services in Tupelo, MS, and the USDA Forest Service Forest Health Protection Southern Region, continues to administer a comprehensive SPB Prevention/Education Program to teach landowners about the benefits of thinning for the reduction of SPB hazard. In addition to the educational aspects of this program, there is an associated statewide cost-share program to assist landowners in getting the pre-commercial and 1st commercial thinning accomplished. Additionally added in the 2016 grant is a logger incentive to try to attract loggers to the SPB thinning tracts.

Presently under grant year of 2014 that was just closed, we completed 3066 acres of thinning and a total of \$229,940 was paid to landowners. Additionally under the 2015 grant, we have 3240 acres signed up, have already paid \$60,710 back to landowners and have \$215,750 obligated for cost share. Also, we are currently taking applications for the 2016 grant year, which we will have \$131,550 available for landowners and \$44,000 available to loggers as an incentive to move to our SPB prevention program thinning tracts. This tactic was copied from Virginia where it was successful in providing funding for moving costs to the grant funded tracts.



Cogongrass

Cogongrass is a non-native, invasive plant that has been spreading aggressively in Mississippi in recent years. It takes over native grasses and vegetation and is a fire hazard under pine plantations. The severity and extent of infestations have increased considerably in the disturbed forests following hurricane Katrina in 2005. The MS

Forestry Commission has been funded for several years by the USFS under their redesign grants to continue the fight against this invasive weed. During 2016, a Joint Chief's USFS grant funded cogongrass treatment in the Black Creek Watershed area in South Mississippi was begun. The accomplishments for 2016 under this grant are: **Landowners assisted – 97, Acres treated- 563.77, Spots treated – 1251, Average size of each spot - .451 acres.** The counties where cogongrass was treated are: George, Jackson, Lamar, Marion, Pearl River, Perry and Stone.



Forest Health Assistance in Mississippi

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